ABSTRACT

An ice thickness/drifting velocity observation of sea ice by using an ice thickness measurement sonar and a current meter moored into the sea and a sea ice observation by a high-resolution airborne SAR are synchronously performed, a correlation between a draft profile of sea ice passing over the sonar and an SAR backscattering coefficient profile is calculated, and an ice draft of desired sea ice is calculated from the relational expression and an SAR backscattering coefficient. As the SAR backscattering coefficient, a backscattering coefficient of L-band HV polarization may be used. A backscattering coefficient of X-band VV polarization is preferably used as the SAR backscattering coefficient to detect thin ice having a thickness of not more than approximately 10 cm.